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AGAM-P (M) (16 Mar 67) FOR OT

20 March 1967

SUBJECT: Operational Report - Lessons Learned, Headquarters,
809th Engineer Battalion (Const)

TO: SEE DISTRIBUTION

1. Forwarded as inclosure is Operational Report - Lessons Learned, Headquarters, 809th Engineer Battalion (Const) for quarterly period ending 31 October 1966. Information contained in this report should be reviewed and evaluated by CDC in accordance with paragraph 6f of AR 1-19 and by CONARC in accordance with paragraph 6c and d of AR 1-19. Evaluations and corrective actions should be reported to ACSFOR OT within 90 days of receipt of covering letter.

2. Information contained in this report is provided to the Commandants of the Service Schools to insure appropriate benefits in the future from lessons learned during current operations, and may be adapted for use in developing training material.

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HEADQUARTERS
809TH ENGINEER BATTALION (CONST)
APO San Francisco 96232

Operational Report for Quarterly Period Ending 31 October 1966 (RCS CSFOR-65)

1. SECTION 1: Significant Unit Activities

a. General:

(1) Construction continued on the Camp Vayama 1000 man cantonment area, Sattahip, Thailand.

(2) Construction was started on four new projects during the period:

(a) Ammunition storage area at Sattahip.

(b) New Battalion Base Camp in Northeast Thailand.

(c) POL Storage Facility at Nakon Panom Air Force Base.

(d) Special Forces Base Camp in vicinity of Sakon Nakon, Thailand.

(3) A platoon of the 41st Ordnance Company (DAS) and a platoon of the 597th Engineer Company (M) (DS) were detached from the battalion. Two platoons of the 697th Engineer Company (Const)(PL) were detached upon completion of POL Tank Farm at Sattahip and were later reattached for construction of the POL Tank Farm at Nakon Panom Air Force Base.

(4) During this period the battalion received a Command Maintenance Management Inspection by Headquarters, USARYIS.

b. Personnel:

(1) Since completion of the Bangkok Bypass Road, the personnel strength of this battalion has decreased steadily. The personnel strength of this command at the beginning and end of the reporting period is shown below:

GRADE	AUTHORIZED	PRESENT FOR DUTY	
		1 Aug 66	24 Oct 66
Officer	25	22	27
Warrant Officer	8	8	7
Enlisted Men	755	686	630

The present for duty strength of Enlisted Personnel is 83% of the authorized strength. This personnel shortage has decreased the operational capabilities of the battalion. A critical need for trained personnel exists in the following areas: medical, survey, supply, vertical construction, and construction machine operators.

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(2) There have been numerous instances of late receipt for assignment instructions for personnel returning to CONUS. Personnel have had to remain in this command up to $2\frac{1}{2}$ months after tour completion pending assignment instructions for no apparent reason other than a lack of follow-up action at higher headquarters. The current policy of reporting personnel for reassignment appears to be adequate.

c. Operations:

(1) Construction Activity, Sattahip, Thailand:

(a) Construction of 1000 Man Cantonment Area (Project Directive #44/66/8): Building construction and site development continued throughout August, September and October 1966. Company C was withdrawn from the Sattahip area just prior to the beginning of the period to begin preparations for a new mission. Company B continued the construction effort with support of one (1) platoon from the 41st Ordnance Company (DAS) and one (1) platoon from the 597th Engineer Company (M)(DS). On 12 August 1966 the 41st Ordnance Company was detached and on 1 September 1966 the 597th Engineer Company (M)(DS) was disbanded. Ordnance maintenance support was taken over by the 57th Light Maintenance Company (DS). On 12 Oct 66 the scope of the project was expanded to add an additional company area with indications of still another company area to be added in the future. Material shortages remain a problem, though recent improvement has been noted. One of the contributing factors to this problem has been a lack of continuity in material ordering, due to rotation of personnel and changing project scope, as well as untimely material delivery. During this period, the battalion made a comprehensive study of materials required to complete the job, and materials currently on hand or on order. The balance of required materials were ordered, which should alleviate some of the material problems. At the close of this period a large majority of the billet and mess hall space has been completed and work is in progress on community facilities, e.g. APO, Enlisted Men's Club, NCO Club, Hospital, Chapel and Post Exchange. To date 88 buildings have been completed for a square footage completion percentage of approximately 80%. The overall project is now 75% complete. Inclosure 1 shows a view of the cantonment area.

(b) Construction of Signal Site (Project Directive #44/66/9): Construction during the period included concrete equipment pads, administrative building, generator shed and latrine. Clearing of the hill was completed and the security fence and security lighting are under construction. Due to terrain problems the clearing has been done by hand, which made progress slow in this area. Improvement of the access road has shown only limited progress due to higher priorities on other earthmoving projects. Inclosure 2 shows the Signal Site Project.

(c) Construction of POL Storage Facility (Project Directive #44/66/10): The tank farm portion of this project was completed during the previous quarter, and turned over to the 596th Quartermaster Company. The project was nearly completed during this period, i.e. access road, security fence, and hardstands. The only item not completed is the perimeter security lighting. Company B was supported during this period by a DBST crew from Company A and "red top" crew from Company C. Inclosure 3 shows the POL Storage Facility.

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(d) Construction of Terminal Buildings, Phase II (Project #44/66/19): The second phase of the Terminal Project was accomplished during this period. The scope of the project was the construction of two (2) administrative buildings, two (2) generator sheds and two (2) latrines for the POL Pier and the Delong Pier. The only problem encountered was a delay in direction on the exact location of the administrative buildings. This problem was solved by constructing the buildings on skids enabling them to be placed in the desired location after construction. Inclosure 4 shows the Phase II construction of the Terminal Buildings Project.

(e) Construction of Ammo Storage Facility (Project Directive #44/66/30): A warning order was received on 1 August 1966 to commence work on this project with certain limitations on the original advance plans. On or about 20 August 1966 the Project Directive with a complete set of plans was received. The original scope of the project included some 6.4 km of main and lateral roads and 21 storage pads, all of compacted laterite. On 12 October 1966, indications were received that the project would be expanded to include a total of some 7.9 km of main and lateral roads and 35 pads, all of compacted laterite. At the end of this period 4 pads were completed and approximately 4 km of road were at various stages of construction. The project was reported to be 40% completed. Most problems in construction can be attributed to the age and worn out condition of the earth-moving equipment, although the maintenance and repair parts sections have done a fine job in keeping a good percentage of the equipment on the job. The project has been hampered by poor delivery of culvert material and by heavy seasonal rains. The project has been accomplished by Company B with reinforcement from portions of the Company C earthmoving platoon near the end of the reporting period. Inclosure 5 shows Ammo Storage Facility construction.

(2) Construction Activity Northeast, Thailand:

(a) Sakon Nakon (Project Directive #9/66/37): At the beginning of the period the battalion was making preparations for relocation to Northeast Thailand. An advance survey and soils team was sent to Sakon Nakon on 8 August 1966 to make preliminary site surveys and soil tests. An advance party from Company C departed base camp on 15 August 1966 with the mission of beginning construction on the new battalion base camp. They took with them precut and partially prefabricated materials for the first eight buildings to expedite initial construction. Meanwhile the final portions of the camp design were being completed and materials were placed on purchase requests pending fund allocation. Care was taken not to move into the site until all the land had been properly procured and all affected personnel were fairly compensated. In an effort to preclude possible bad relations, the displaced local national residents were hired as laborers by the advance party for the camp construction. The time for the move coincided with the rainy season. The saturated soil condition was a serious problem, especially in view of the type soil at the site. Drainage ditches were cut throughout the site to drain off surface water and lower the water table. A corduroy road made from 2" - 8" local timbers with a thin laterite cap was constructed into the site to distribute wheel loads and allow vehicle access to the site. The advance party lived in a tent camp while

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buildings were being prefabricated, bridges in the area reinforced, the existing road improved, and the site drained and cleared for construction. Lack of access roads off the highway alignment necessitated the use of a helicopter for reconnaissance of possible soil borrow sites for fill operations and rock deposits for quarry operations. Lack of access roads will make future operation of these facilities difficult. As a result of experience in the Sattahip area operation, a decision was made not to strip the site but to leave the top soil and existing trees. This decision was based on soil tests and experiments which proved the soil bearing capacity to be adequate. This should prove to be beneficial in the future as a means of shade and dust control. Building construction began on 12 September 1966. On 20 October 1966, 24 buildings were completed and the advance party had moved into the site from their tent camp. On or about 26 September 1966 a decision was made to curtail the relocation of the 809th to the Northeast in favor of sending a company-sized unit. Plans are for the advance party to complete a reinforced company-sized camp area and return to base camp. The company camp is being built as a part of the original battalion camp layout to facilitate enlarging the cantonment area in the event of a future buildup. Inclosure 6 shows construction in the Sakon Nakon area.

(b) Nakon Panom, (Project Directive #44/66/40): On 29 August 1966 the battalion was informed of a requirement to construct a POL storage facility at Nakon Panom Air Force Base. Two (2) platoons (-) from the 697th Engineer Company (PL) have been attached for fabrication of the tanks, piping, filter separators and truck fill equipment. One construction platoon from Company C with a portion of Company C earthmoving capability was dispatched on 10 October 1966 to Nakon Panom to begin the project. Scope of the work includes erection of two (2) 10,000 barrel fuel storage tanks, filter separators, and truck unloading and fill stands. The primary mission of the 809th is earthwork to prepare earth pads, drainage and berms, and construction of reinforced concrete foundation rings and equipment pads. Formwork for the concrete rings was prefabricated in base camp, per experience in the Sattahip tank farm construction, and transported in sections by commercial carrier to facilitate and expedite construction. Problems encountered have been a delay in receipt of a project directive and fund allocation which is subsequently delaying ordering and delivery of construction materials to the site.

(c) Special Forces Camp, vic Sakon Nakon, Thailand: On 17 October 1966, the battalion received instructions to begin work immediately on a 70 man camp for a Special Forces detachment to be located in the vicinity of the Company C base camp in Northeast Thailand. The scope of the project is the construction of eleven (11) standard buildings with mess hall, latrine, water tower, generator shed and necessary utilities. BOD is to be 14 November 1966. Materials were taken from the stock on hand for the base camp construction and prefabrication began at once, before the site was selected or a site plan received. Upon receipt of the camp location, the Company C work force was split with emphasis placed on the Special Forces Camp construction. At the close of the period Company C had begun construction on the Special Forces camp and was maintaining the

construction effort on the base camp with a skeleton crew, reinforced with Local National labor.

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(3) Civic Action Project, Chachoengsao Railhead, Chachoengsao, Thailand: On 20 September 1966, the battalion was given an emergency mission of increasing the bearing capacity of the loading hardstand at the Chachoengsao Railhead. The situation was critical because of the heavy load of equipment being shipped into the country. The existing hardstand was constructed by the Thai Railroad on poorly drained unstable soil with a lift of large size aggregate on top. The heavy trucks were bogging down and stalling the operation. A decision was made to place pierced steel plank over the entire hardstand as a temporary measure to distribute the vehicle loads until weather allowed the site to be properly drained and the bad material replaced. One (1) platoon from Company C placed 30,000 square feet of PSP in 982 manhours and enabled the operation to continue with minimum delay. A light lift of fine aggregate was placed over the steel plank to fill the voids below and minimize deflection and subsequent bending and buckling of the planking. The solution was quite effective and the operation was able to continue with no problems.

d. Maintenance:

(1) During this report period this unit received the CMMI. Elements of the unit did not receive a satisfactory rating and are scheduled for re-inspection during the next report period. A detailed plan for preparation for the CMMI re-inspection has been initiated.

(2) The reduction of excess ASL no longer needed by this unit is continuing. Most of the effort has been in identifying parts for equipment no longer in the unit.

(3) During this period several weaknesses in the maintenance program have been found. In order to correct these the following action has been taken: a new Motor/Equipment Stables Policy, a program to better educate the operator in maintaining his equipment, the establishment of a Battalion Monthly Maintenance Meeting and a Weekly Maintenance Publication.

(4) One of the major maintenance problems during this period has been dispersal of the battalion elements over a 600 mile area (4 locations). This creates problems in Maintenance Supervision, Coordination, Supply Lines, and Maintenance Facilities.

(5) The rapid turn-over & shortage of maintenance personnel during this period has caused some difficulty in maintaining maintenance production. However, the critical maintenance shortage will occur early in the next reporting period when this unit will be without a Maintenance Warrant for two of the line companies.

e. Supply:

(1) Unserviceable Ordnance Equipment: During this period forty (40) items of uneconomically repairable ordnance equipment were turned into the proper disposal activities.

(2) Unserviceable Engineer Equipment: Considerable delay is being experienced in receiving disposition instructions for uneconomically repairable engineer equipment. Disposition instructions, requested on 29 March 1966, for six (6) major items have not been received by this organization although tracer action was submitted on 16 May 1966 and again on 30 August 1966. During this period three (3) letter requests for disposition of engineer equipment (5 major items) have been submitted. No disposition has been received.

(3) One hundred and eighty (180) PRCs were prepared by this headquarters for equipment, construction supplies, and BPAs.

(4) Supply actions for the construction of facilities in Sattahip have continued. PRCs for the additional work required to be accomplished by the 809th Engineer Battalion have been submitted to higher headquarters for processing when additional funds become available for project 9/66/14.

(5) PRCs for the POL Tank Farm, project 9/66/57 have been submitted to higher headquarters for processing when funds become available.

(6) All the PRCs for the NE Base Camp, project 9/66/37 have been submitted and supplies should be on site by 30 October 1966.

(7) Rations for all units stationed at Camp Vayama were broken down and delivered from the 809th Engineer Battalion Ration Breakdown at Camp Charm Sinthope.

2. SECTION 2: Lessons Learned

a. Supply: During this period the necessity for adequate time to plan and procure materials for a project was again emphasized. The concurrent design, preparation of bill of bill of materials, and procurement of materials with the actual construction has proved to be very inefficient. The most appropriate solution to this problem is to accomplish the planning of a project in time to allow for the required procurement lead time for materials. Based on experience in the past year the minimum procurement lead time should be 45 days.

b. Maintenance: During this period "C" Company moved their organic vehicles and equipment over a distance of 600 miles with only minor delays due to breakdowns. This unusual achievement was accomplished

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by sending with each convoy qualified mechanics and a large variety of repair parts. The few vehicles that did breakdown were immediately repaired and rejoined the convoy without delay.

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LTC, CE
Commanding

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Incl Construction of 1000 Man Cantonment Area
Project #44/66/8, Sattahip, Thailand

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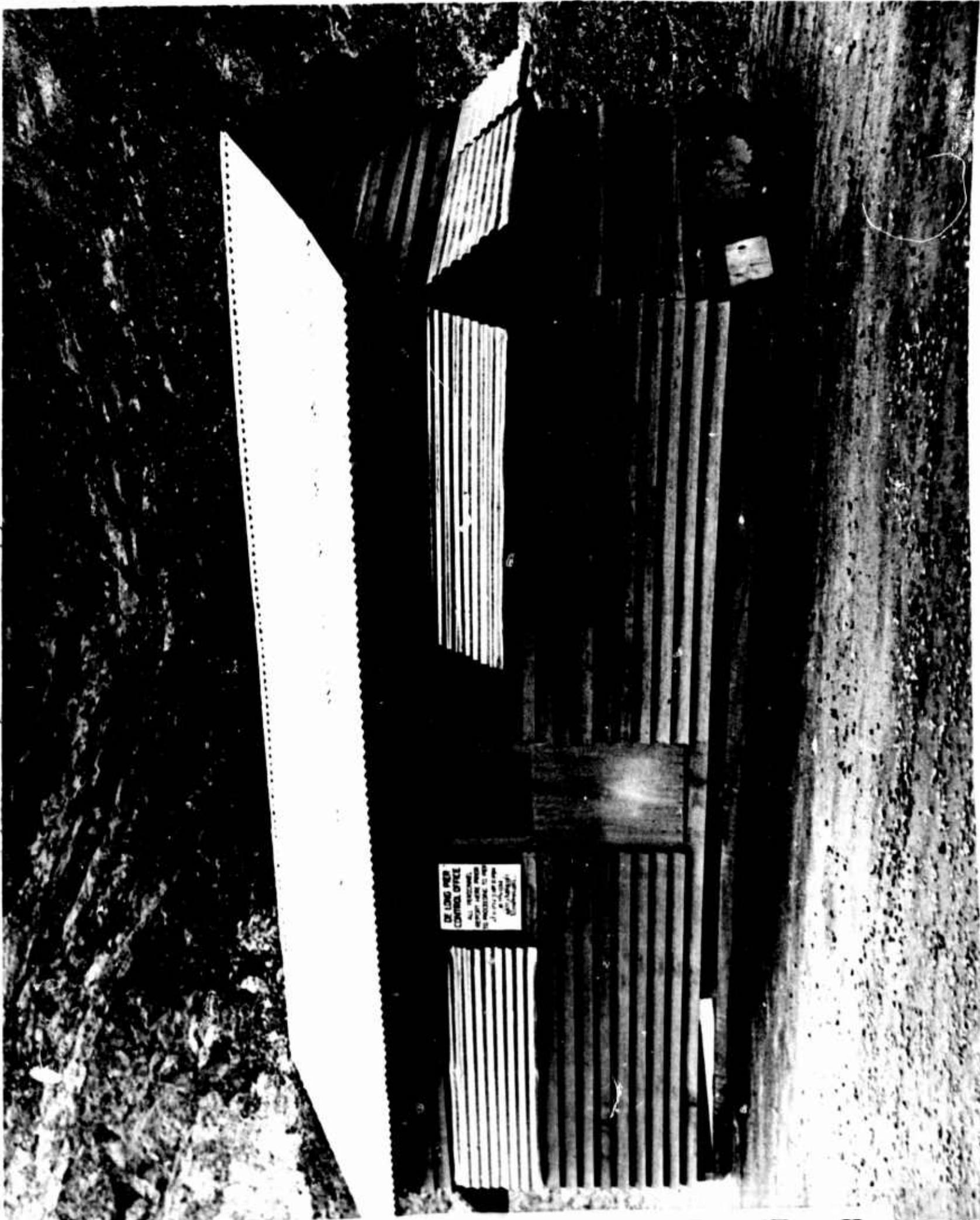
Incl 2

Construction of Signal Site
Project #44/66/9, Sattahip, Thailand

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Incl 3

Construction of POL Storage Facility
Project #44/66/10, Sattahip, Thailand



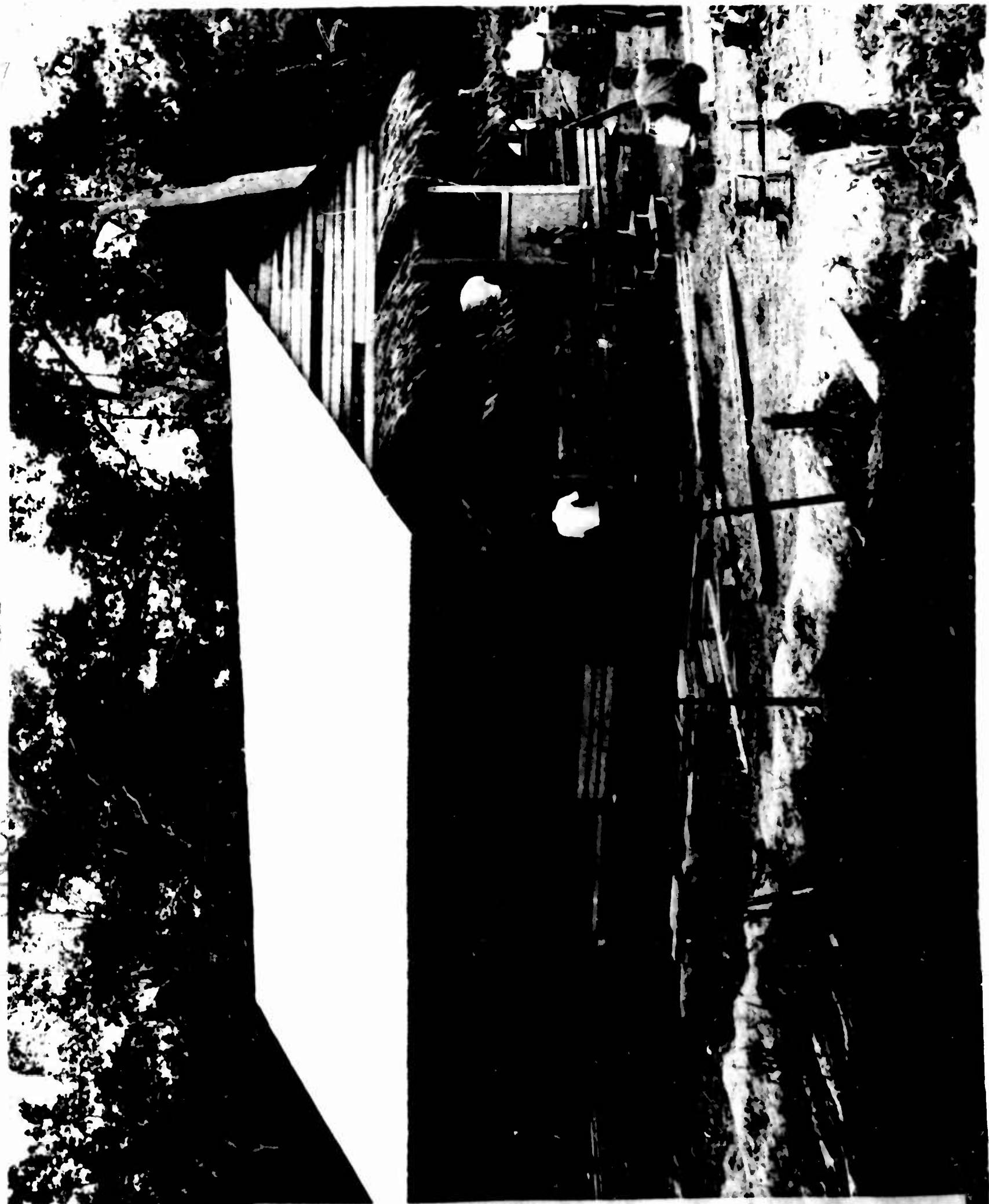
Incl 4

Construction of Terminal Buildings, Phase II
Project #44/66/19, Sattahip, Thailand

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Incl 5

Construction of Ammo Storage Facility
Project #44/66/30, Sattahip, Thailand



Incl 6

Construction of Sakon Nakon Reinforced Company Camp
Project #44/66/30 Sakon Nakon, Thailand